

IN THE CLAIMS

Kindly replace the claims of record with the following full set of claims:

1. (Currently amended) A display device for displaying a three dimensional image such that different views are displayed according to the viewing angle, the display device including:

a display panel (20) having a plurality of separately addressable pixels ($p_1...p_{22}$) for displaying said image, the pixels being grouped such that different pixels in a group (21) along a first axis correspond to different views of the image, each pixel in a group being positioned relative to a respective discrete light source (22) and each pixel being separately controllable to vary an optical characteristic of each pixel to generate an image according to received image data;

wherein the sizes of the pixels within a group vary as a function of the viewing angle of the pixels with respect to the respective light source along the first axis as:

$$0.5h[\tan((n+1)\Delta\phi_{eye}) - \tan((n-1)\Delta\phi_{eye})]$$

where n is the pixel position from the central pixel (0, 15) of the group, h is the orthogonal separation of the light source to the plane of the group of pixels and $\Delta\phi_{eye}$ is the angular separation between the left and right human eye, wherein $\Delta\phi_{eye}$ approximates to $\arctan(s/d)$, where s is the average inter-ocular spacing between the left and right eyes and d is the viewing distance between the viewer and the display device; and

polarizing elements of said display panel are oriented so as to minimize viewing angle dependence relative to a second axis, wherein said second axis is orthogonal to the

2. (original) The display device of claim 1 in which the sizes of the pixels within a group (21) increase with increasing viewing angle.

3. (original) The display device of claim 1 in which the sizes of the pixels within a group (21) increase nonlinearly with increasing viewing angle.

4. (original) The display device of claim 2 in which the increasing pixel sizes within a group (21) are adapted to render the angular size of view of the respective light source (22) independent of the viewing angle.

5. (Previously presented) The display device of claim 2 in which the increasing pixel sizes within a group (21) are adapted to substantially normalise the intensities displayed by each pixel in the group so as to be independent of viewing angle.

6. (Previously presented) The display device of claim 1 in which each pixel group (21) includes a central pixel (0, 15) positioned to correspond to zero viewing angle.

7. (original) The display device of claim 6 in which the pixel sizes in a group (21) increase either side of the central pixel (0, 15).

8. (original) The display device of claim 7 in which the pixel sizes increase

symmetrically on either side of the central pixel (0, 15).

9. (Cancelled)

10. (Previously presented) The display device of claim 1 further including a back panel (11) for providing a plurality of said discrete light sources (14, 22), each group (21) of pixels in the display panel (20) being positioned to receive light from a respective one of the discrete light sources.

11. (original) The display device of claim 10 in which the back panel (11) provides a plurality of line sources of illumination.

12. (original) The display device of claim 10 in which the back panel (11) provides a plurality of point sources of illumination.

13. (Previously presented) The display device of claim 1 further including a display driver (52) for controlling said optical characteristic of each pixel within a group.

14. (Previously presented) The display device of claim 11 in which the display panel (20) is a light-transmissive display panel adapted for viewing from a side opposite to the side on which the back panel (11) is located.

15. (original) The display device of claim 1 further including a lenticular array

(120) positioned adjacent to the display panel (20), each lenticle (121) within the array focusing light from selected pixels in the display panel.

16. (original) The display device of claim 15 in which each lenticle (121) within the array (120) is associated with a said group (116) of pixels.

17. (Previously presented) The display device of claim 1 in which the optical characteristic is a light transmission characteristic and the display driver (52) is adapted to control the amount of light passing through each pixel according to an image to be displayed.

18. (Cancelled)

19. (Previously presented) The display device of claim 17 incorporated into an object, in which the second axis is defined as the vertical axis when the object is in normal use.

20. (Currently amended) A method for displaying a three dimensional image on a display device such that different views of the image are displayed according to the viewing angle, the method comprising the step of:

processing image data to form pixel intensity data values for each one of a plurality of separately addressable pixels ($P_7 \dots P_{22}$) in a display panel (20), the pixels being grouped such that different pixels in a group (21) along a first axis correspond to

different views of the image, and each pixel in a group being positioned relative to a respective discrete light source (22), the pixel intensity data values each for controlling an optical characteristic of a respective pixel to generate the image;

wherein the sizes of the pixels within a group vary as a function of the viewing angle of the pixels with respect to the respective light source along the first axis as:

$$0.5h[\tan((n+1)\Delta\phi_{eye}) - \tan((n-1)\Delta\phi_{eye})]$$

where n is the pixel position from the central pixel (0, 15) of the group, h is the orthogonal separation of the light source to the plane of the group of pixels and $\Delta\phi_{eye}$ is the angular separation between the left and right human eye, wherein $\Delta\phi_{eye}$ approximates to $\arctan(s/d)$, where s is the average inter-ocular spacing between the left and right eyes and d is the viewing distance between the viewer and the display device; and

polarizing elements of said display panel are oriented so as to minimize viewing angle dependence relative to a second axis, wherein said second axis is orthogonal to the first axis.

21. (original) The method of claim 20 in which the pixel sizes within a group (21) are varied by increasing at least one of a linear or areal dimension of the pixels.

22. (original) the method of claim 21 in which the pixel sizes within a group (21) are selected to render the angular size of view of the respective light source (22) independent of the viewing angle.

23. (Previously presented) The method of claim 21 in which the pixel sizes within a group (21) are selected to substantially normalise intensities displayed by each pixel in the group so as to be independent of viewing angle.

24. (original) The method of claim 20 in which the optical characteristic is a light transmission characteristic and a display driver (52) is adapted to control the amount of light passing through each pixel according to an image to be displayed.

25. (Cancelled)

26. (Previously presented) The method of claim 20 in which the second axis is the vertical axis when the display panel (20) is in normal use.

27. (Cancelled)

28. (Cancelled)

29. (Original) A display device for displaying a three dimensional image such that different views are displayed according to the viewing angle, the display device including:

a display panel (20) having a plurality of separately addressable pixels ($p_1...p_{22}$) for displaying said image, the pixels being grouped such that different pixels in a group (21) correspond to different views of the image, each pixel in a group being positioned

relative to a respective discrete light source (22) and each pixel being separately controllable to vary an optical characteristic of each pixel to generate an image according to received image data;

wherein the sizes of the pixels within a group increases according to the function:

$$0.5h[\tan((n + 1) \Delta\phi_{eye}) - \tan((n - 1) \Delta\phi_{eye})]$$

where n is the pixel position from the central pixel (0, 15) of the group, h is the orthogonal separation of the light source to the plane of the group of pixels and $\Delta\phi_{eye}$ is the angular separation between the left and right human eye, wherein $\Delta\phi_{eye}$ approximates to $\arctan(s/d)$, where s is the average inter-ocular spacing between the left and right eyes and d is the viewing distance between the viewer and the display device.